PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
UC0206PCT		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US 03/28259	09/09/2003	09/09/2002
Applicant		
E.I. DU PONT DE NEMOURS AND COMPANY		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 9 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [ ] furnished subsequently to this Authority in written form.

   [ ] furnished subsequently to this Authority in computer readble form.

   [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 5

   [ ] as suggested by the applicant.

   [ ] because the applicant failed to suggest a figure.

   [X] because this figure better characterizes the invention.

   [ ] None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/28259

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G09G3/32

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G09G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 291 942 B1 (FUJITA SUSUMU ET AL) 18 September 2001 (2001-09-18) the whole document ---	1,7-9
X	EP 1 079 361 A (HARNESS SYST TECH RES LTD ;SUMITOMO WIRING SYSTEMS (JP); SUMITOMO) 28 February 2001 (2001-02-28) the whole document ---	1,7,8
X	EP 0 923 067 A (SEIKO EPSON CORP) 16 June 1999 (1999-06-16) cited in the application the whole document	1-3,7,8, 34-36
Y	---	4-6
	-/--	

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
22 March 2004	02.04.04

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Harke, M

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/28259

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/035848 A1 (HUNTER IAIN MCINTOSH ET AL) 1 November 2001 (2001-11-01) the whole document	1-3,7,8
Y		13,19
Y		4-6
Y	US 6 404 137 B1 (SHODO KENZO) 11 June 2002 (2002-06-11) the whole document	4-6
E	WO 03 077013 A (STUERZLINGER WOLFGANG ;UNIV BRITISH COLUMBIA (CA); WHITEHEAD LORNE) 18 September 2003 (2003-09-18) the whole document	8-19
X	WO 02 23954 A (KONINKL PHILIPS ELECTRONICS NV) 21 March 2002 (2002-03-21) the whole document	8-12, 14-18
Y		13,19,20
X	US 2001/035853 A1 (HARBERS GERARD ET AL) 1 November 2001 (2001-11-01) the whole document	16,18
Y		13,19,20
Y	EP 1 197 942 A (SANYO ELECTRIC CO) 17 April 2002 (2002-04-17) the whole document	20
Y	EP 1 134 719 A (NIPPON ELECTRIC CO) 19 September 2001 (2001-09-19) the whole document	20
X	US 6 081 073 A (SALAM HASSAN PADDY ABDEL) 27 June 2000 (2000-06-27) the whole document	8-12, 14-18, 21-25, 34-36
Y		13,19, 20,27-29
A		30-33
X	US 6 271 825 B1 (KATYL ROBERT H ET AL) 7 August 2001 (2001-08-07) the whole document	21-25
Y		27-29
A		30-33
X	WO 01 63587 A (SARNOFF CORP) 30 August 2001 (2001-08-30) the whole document	21-25
Y		27-29

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Form PCT/ISA/210 (continuation of second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/28259

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 225 557 A (MATSUSHITA ELECTRIC IND CO LTD) 24 July 2002 (2002-07-24) the whole document	21-29, 34-36
X	US 5 615 039 A (HENLEY FRANCOIS J) 25 March 1997 (1997-03-25) the whole document	26
Y		27-29

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INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-9

The first concept concerns an electronic device comprising a radiation-emitting element emitting radiation and a radiation-sensing element measuring the emitted radiation,

wherein, for solving the problem of processing the measurement signal from the radiation-sensing element, the second circuit is coupled to a reference potential line and a sense amplifier.

2. Claims: 8-20

The second concept concerns an electronic device comprising a radiation-emitting element and a radiation-sensing element, wherein the electronic device comprises further

- for solving the problem of enhancing the optically coupling of the radiation-emitting element to the radiation-sensing element, e.g. placed at the edge of the radiation-emitting element - a waveguide, which couples the radiation-emitting element to the radiation-sensing element.

3. Claims: 21-29

The third concept concerns a method of using an electronic device, wherein

- for solving the problem of avoiding the placement of a radiation-sensing apparatus between the user and the radiation-emitting element in normal operation -

a radiation-sensing apparatus/reflector is placed for the measurement adjacent to a user side of the electronic device,

radiation-emitting elements are activated,

intensities of emitted radiation are measured with the radiation-sensing apparatus adjacent to the user side/opposite to the user side,

the radiation-sensing apparatus/the reflector is removed after the measurement.

4. Claims: 30-36

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

The fourth concept concerns a method of using an electronic device, wherein

- for solving the problem of problem of how to determine a correction factor for the data signal to the radiation-emitting element -

radiation-emitting elements are activated,

intensities of emitted radiation are measured,

correction factors for the radiation-emitting elements are determined, wherein
the correction factor is a function of a change in intensity between a prior state and a most recent state for a specific radiation-emitting element, the maximum change in intensity between a prior state and a most recent state of any radiation-emitting element, a maximum intensity of any radiation-emitting element during the prior state, and a mimimum intensity of any radiation-emitting element during the most recent state.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 03/28259

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 03/28259

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